Agri-environment measures

Background

Rural development policy in the European Union provides funding for a wide range of measures that Member States or regions use to support the sustainable development of their respective rural areas. Member States establish their Rural Development Programmes (RDP) at national or regional level, in accordance with their needs and reflecting their respective National Strategy Plans. Rural Development Programmes are co-financed by the EU and the Member States.

Rural development measures are arranged under the three themes of the policy, known as 'thematic axes': competitiveness, environment and the countryside, and quality of life and economic diversification. Measures under all three axes may address soil degradation on agricultural land. These measures include training, farm modernisation, natural handicap payments, agri-environment payments, non-productive investments, agroforestry, and afforestation.

Agri-environment measures in particular encourage farmers to protect, maintain and enhance the environmental quality of their farmland. Agri-environment measures can be designed at the national, regional, or local level and so are adapted to particular farming systems and specific environmental conditions. In supporting actions going beyond legal and compulsory requirements, agri-environment measures complement the GAEC approach (see fact sheet no. 8).

Concrete menus of agri-environmental commitments are agreed between the implementation authority and the farmer through contracts for periods of between five and seven years. Agri-environment payments are calculated on the basis of cost incurred and income foregone as a result of specified agri-environment commitments.

Erosion pond (Somerset, United Kingdom) (Source: Geertrui Louwagie)

Traditional hedgerows between oilseed rape fields (Schleswig-Holstein, Germany) (Source: Stephan Hubertus Gay)

Effects on soil degradation processes

Agri-environment measures which target soil protection, conservation or improvement, address in particular water or wind erosion, soil contamination, or certain physical, chemical, and biological soil properties. Schemes that primarily target the preservation of water, biodiversity, or landscape may work through the adoption of soil conservation practices. Instead of focussing on single soil conservation practices, agri-environment measures may also focus on the adoption of environmentally benign farming systems such as conservation agriculture and organic farming.

Targeting water erosion

- Conservation tillage practices such as no-tillage, in particular on areas with high biodiversity value in order to support soil biodiversity; or mulch-sowing in combination with no- or reduced tillage: that is, leaving crop remains (mostly straw) on the field (usually during the winter months) and drilling seeds directly under the mulch; or direct sowing and non-inversion tillage
- Green cover crops during winter time
- Installing and maintaining grass buffer zones, grass corridors or erosion ponds and dams
- Building or rebuilding soil retention structures, such as terraces or walls, on the boundaries of sloping fields under irrigation

Targeting organic matter and biodiversity decline

- Use of exogenous organic matter in arable farming, such as manure, green cover, straw, etc.
- Conservation agriculture techniques, such as no-tillage, in areas of high biodiversity value under annual crops
- (Conversion to) organic farming, in particular through input reduction, crop rotation and extensification of livestock. Positive side-effects on local and diffuse soil contamination are expected.

Source: SoCo survey on EU policy implementation

Success stories

The organic agriculture agri-environment scheme (Murcia, Spain)

This measure aims at preserving ecosystems, maintaining or increasing soil fertility and organic matter content, producing crops free of chemical residues and reducing chemical pollution from agricultural sources. It has existed in Spain since 1992; the implementation in Murcia started in 2001. Under the current programme (2007-2013) farmers sign a contract for 5 years and payments differ between crops. It is the most important agri-environment scheme in the region, consuming 57 % of the budget, and foresees support for 1 500 farms or 30 000 ha, aiming at a 25 % increase in the area under organic farming in the region, and focusing on nature protection areas.

The prescriptions of the scheme for individual measures are designed by the regional government, in consultation with the regional council for the regulation of organic agriculture, and agricultural organisations. The latter play an important role in helping farmers with the administration of the measure, and also act as advisors.

This measure has considerable potential to address soil degradation problems in the region, and is mainly relevant in irrigated areas. Other positive features are its adaptation to regional conditions and its continuity over time; its importance guarantees continuity into the future too. The measure is well known and fairly popular among farmers, despite its heavy administrative burden and limited funding for participants.

Source: SoCo case study in Spain

Agri-environment measures proved to be successful in generating soil benefits, for example:

- Hedge-planting measures in Piemonte (Italy) had a significant impact on soil erosion.
- In Austria, direct sowing techniques for maize resulted in a 40 % reduction in soil erosion.
- Organic farming practices in Umbria (Italy) helped to reduce soil erosion on average by 6.8 t/ha/yr. Conversion of arable land to grassland resulted in a reduction in erosion by 30 t/ha/yr.
- In Flanders (Belgium), calculations indicated that green cover reduces soil erosion by at least 50 %.

Source: Mid-term evaluation RDP 2000-2006

Further reading

http://soco.jrc.ec.europa.eu

Use of pheromones in viticulture, which allows reduced pesticide use (Rheinland-Pfalz, Germany) (Source: Geertrui Louwagie)

This fact sheet is based on the findings of the 'Sustainable agriculture and soil conservation' (SoCo) project. It is part of a package of ten sheets organised around the three main topics of the project. The sheets cover the following topics:

- Introduction:
  - Fact sheet no. 1: Linking soil degradation processes, soil-friendly farming practices and soil-relevant policy measures;

- Soil degradation processes:
  - Fact sheet no. 2: Water erosion and compaction;
  - Fact sheet no. 3: Organic matter decline;
  - Fact sheet no. 4: Salinisation and sodification;

- Soil-friendly farming systems and practices:
  - Fact sheet no. 5: Conservation agriculture;
  - Fact sheet no. 6: Soil-friendly tillage practices;
  - Fact sheet no. 7: Soil-friendly farm infrastructure elements;

- Soil-relevant policies:
  - Fact sheet no. 8: Requirement to keep land in good agricultural and environmental condition (GAEC);
  - Fact sheet no. 9: Agri-environment measures;
  - Fact sheet no. 10: Advisory services.

All SoCo fact sheets and project reports can be downloaded at: http://soco.jrc.ec.europa.eu.

SoCo
Sustainable Agriculture and Soil Conservation 2007-2009

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May 2009